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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,280	09/18/2003	Arihiro Takeda	1117.68338	5624

7590 08/23/2005
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EXAMINER

DUONG, THOI V

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,280

Applicant(s)

TAKEDA ET AL.

Examiner

Thoi V. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-26,34 and 35 ~~is/are~~ pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-26,34 and 35 ~~is/are~~ rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/047,216.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Amendment filed June 02, 2005.

Accordingly, claim 22 was amended, claims 1-21 and 27-33 were cancelled, and new claims 34 and 35 were added. Currently, claims 22-26, 34 and 35 are pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claim 22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 22 is objected to because of the following informalities: claim 22 should be labeled as "Amended" instead of "Original." Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 24 is dependent on claim 22. Claim 22 recites a first orientation control element extending in a nonparallel direction relative to an extending direction of an edge of said pixel electrode and a second orientation

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control element extending in a parallel direction relative to an extending direction of said edge, wherein said first orientation control element is provided on said first and second substrates respectively. Meanwhile, claim 24 recites at least one of first and second orientation control elements being a slit formed in said pixel electrode in an oblique direction relative to an extending direction of said edge. However, the specification does not disclose such combination of first and second orientation control elements on both substrates. As shown in Fig. 18, the protrusions 41 and 42 are formed on the second substrate and the slit 23 is formed in the pixel electrode. Fig. 23B shows only protrusions 23 are formed on both substrates. Similarly, Figs. 26A and 26B shows only protrusions 103 and 106 formed on both substrates.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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7. Claims 22, 23, 25, 26, 34 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (Kim, USPN 6,567,144 B1).

As shown in Figs. 6A, 6B, 7 and 8, Kim discloses a liquid crystal display device comprising:

a first substrate 200 (TFT substrate) having thereon a pixel electrode 20 in an active element;

a second substrate 100 (color filter substrate) having thereon an opposed electrode 10; and

a liquid crystal layer interposed between said first and second substrates with said electrodes facing each other,

wherein a first orientation control element 27 and 17 extending in a nonparallel direction relative to an extending direction P2 of an edge 19 of said pixel electrode 20 and a second orientation control element 17(171) extending in a parallel direction relative to an extending direction P2 of said edge 19 are provided on at least one of said first and second substrates,

said first orientation control element 27 and 17 is provided on said first and second substrates respectively, and

at least a part of liquid crystal molecules 3 of said liquid crystal layer on said second orientation control element 17(171) at the vertex are orientated in a vertical direction relative to said substrate when voltage is being applied between said pixel and opposed electrodes (Fig. 7 and col. 7, lines 31-63),

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wherein, re claim 23, as shown in Figs. 6A and 6B, said second orientation control element 171 is provided on said second substrate 100, and said pixel electrode 20 does not exist on at least a part of a place on said first substrate 200 opposed to said second orientation control element 171;

wherein, re claim 25, said first orientation control element 27 is a protrusion formed on said pixel electrode 20 in an oblique direction relative to an extending direction P2 of said edge 19 (Figs. 6A, 6B and 7);

wherein, re claim 26, a dielectric anisotropy of said liquid crystal molecules 3 of said liquid crystal layer is negative (col. 4, lines 56-59); and

wherein, re claim 34, said liquid crystal molecules on said second orientation control element are oriented in a non-vertical direction relative to a longitudinal direction of said second orientation control element when no voltage is applied (see Fig. 2, and col. 4, lines 48-55),

wherein, re claim 35, said liquid crystal molecules 3 on said second orientation control element are oriented in a direction of 45 degrees relative to the longitudinal direction of said second orientation control element (Fig. 2).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (Kim, USPN 6,567,144 B1) in view of Koma (USPN 6,229,589 B1).

As shown in Figs. 4 and 7, Kim discloses a liquid crystal display device comprising:

- a first substrate 200 having thereon a pixel electrode 20 in an active element;
- a second substrate 100 having thereon an opposed electrode 10; and
- a liquid crystal layer interposed between said first and second substrates with said electrodes facing each other,

wherein a first orientation control element 27 and 17 extending in a nonparallel direction relative to an extending direction of an edge 19 of said pixel electrode 20, said first orientation control element is provided on said first and second substrates respectively;

wherein, re claim 25, said first orientation control element 27 is a protrusion formed on said pixel electrode 20 in an oblique direction relative to an extending direction P2 of said edge 19; and

wherein, re claim 26, a dielectric anisotropy of said liquid crystal molecules 3 of said liquid crystal layer is negative (col. 4, lines 56-59).

Song discloses a liquid crystal display device that is basically the same as that recited in claim 22 except for a second orientation control element extending in a parallel direction relative to an extending direction of said edge being provided on at least one of said first and second substrates.

As shown in Figs. 3 and 4, Koma discloses a liquid crystal display device comprising a second orientation control element 50 extending in a parallel direction relative to an extending direction of a vertical edge of pixel electrode 19 being provided on a second substrate 30, wherein at least a part of liquid crystal molecules 41 of liquid crystal layer 40 on said second orientation control element 50 are orientated in a vertical direction relative to said substrate when voltage is being applied between said pixel and opposed electrodes 19 and 31 (col. 5, lines 11-15),

wherein, re claim 23, said second orientation control element 50 is provided on said second substrate 30, and said pixel electrode 19 does not exist on at least a part of a place on first substrate 10 opposed to said second orientation control element 171 since the top of the second orientation control element (Y-shape) is formed outside the pixel electrode 19; and

wherein, re claim 24, said second orientation control element 50 is a slit.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD of Song with the teaching of Koma by forming a second orientation control element extending in a parallel direction relative to an extending direction of an edge of the pixel electrode so as to improve viewing angle characteristics and transmittance and reduce the average response time of the display (col. 3, lines 60-65).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.


ROBERT KIM
SUPERVISOR/PATENT EXAMINER

Thoi Duong 

08/17/2005